

CREDIT OPINION

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Virgin Islands Water & Power Authority

Update to Key Credit Factors

Summary

The Virgin Islands Water and Power Authority's (VI WAPA) credit profile (Caa1 senior electric system revenue bonds, Caa2 subordinate electric system revenue bonds) is supported by substantial monetary assistance from the Federal Emergency Management Agency (FEMA) following hurricanes Maria and Irma in the second half of 2017.

FEMA assistance has allowed management to focus on its operations and restore power to its customer base without putting additional pressure on the authority's limited liquidity resources. FEMA grants and loans include assistance for immediate emergency response efforts, for bridging a temporary loss in customer revenue, as well as for future capital investments in the long-term resiliency of the electric transmission and distribution system.

Customer demand and revenue collections have started to improve over the last few months but remain below historic levels. Uncertainty remains when and to what extent the territory's economy and weak government finances will fully recover.

Going forward management will be challenged to stabilize VI WAPA's weak financial flexibility, improve financial controls and the delivery of financial audits while maintaining the focus on its operations. VI WAPA's liquidity profile remains constrained by limited amounts of cash on hand, fully drawn working capital credit lines, high outstanding government receivables, certain overdue supplier trade payable and an upcoming debt maturity of \$34 million in November 2018. VI WAPA currently expects to extend the maturity of this private placement before its termination.

Bondholders for rated senior and subordinate debt benefit from a fully cash funded debt service reserve fund for both the senior and subordinated debt.

Credit strengths

- » Power has been restored to all eligible customers and customer collections are improving
- » \$75 million FEMA community disaster loan bridges temporary loss of customer revenue
- » FEMA grants for investments improve long-term resiliency of the electric system
- » Rate structure includes automatic recovery mechanism
- » More transparency by new management
- » Debt service reserve fund for senior and subordinated bonds

EXHIBIT

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Credit challenges

- » Customer peak demand and revenue collections remain well below pre-hurricane levels
- » Very limited liquidity resources and upcoming November 2018 debt maturity
- » Unchanged high amount of outstanding government receivables
- » Execution of various capital projects will require management resources and good control of costs
- » High retail electricity rates
- » 2017 audit has not been released yet

Rating outlook

The negative outlook considers VI WAPA's limited own liquidity resources and upcoming debt maturity in November 2018. The negative outlook also considers the challenge to restore customer revenue collections to historic levels and the high uncertainty if and when the territory's economy will fully recover from the damage caused by both hurricanes.

Factors that could lead to an upgrade

- » Improvement in the authority's liquidity profile
- » Rate increases supporting improved cost recovery and translating into improvement of financial metrics with Moody's total fixed charge coverage ratio improving to 1.0x.
- » Improvements in the credit quality of the Government of the US Virgin Islands

Factors that could lead to a downgrade

- » Continued deterioration of VI WAPA's liquidity profile and financial metrics, threatening the long-term sustainability of the authority
- » Deterioration in the credit quality of the Government of the US Virgin Islands
- » Debt restructuring and/or prospects for recovery rate worsen

Key indicators

Exhibit 1

Virgin Islands Water and Power Authority	2012	2013	2014	2015	2016
Operating Revenue (\$'000)	333,404	341,158	323,202	270,310	224,310
Debt Outstanding (\$'000)	293,717	284,113	279,746	266,575	265,786
Debt Ratio (%)	87.1	89.4	81.8	77.3	86.6
Total Days Cash on Hand (days)	32	29	32	33	13
Fixed Obligation Charge Coverage (if applicable)(x)	0.80	1.07	0.98	0.83	1.13

Note: Fixed Obligation Charge Coverage in 2015 would be -0.13x including deferred pension expenses recognized in the authority's operating expenses. Total days cash on hand in 2016 only includes unrestricted cash balance on balance sheet and not any other restricted reserves as these are deemed not to be readily available. All credit metrics are calculated as defined and as adjusted by Moody's Investors Service.

Source: Audited financial statements VI WAPA electric system, Moody's Investors Service.

Profile

The Virgin Islands Water and Power Authority (VI WAPA) is an independent governmental agency of the U.S Virgin Islands and was created in 1964. Its electric system is a monopoly provider of electric service to nearly 54,000 customers on St. Thomas, St. Croix, St.

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John, Water Island and Hassel Island. Unlike the majority of publicly owned entities, the rates of both the electric and water systems are regulated by the Public Services Commission (PSC) of the U.S. Virgin Islands. The water and the electric system are independently financed with separate liens on net revenues securing the outstanding debt of each system. We only rate debt of the electric system and the authority provides separate accounting for each system.

Detailed credit considerations

Revenue Generating Base

Uncertainty around recovery of the Virgin Islands economy

VI WAPA is tasked with maintaining a reliable electric system in a territory that has been frequently exposed to hurricanes. While the authority is critical to the economy as a monopoly electricity provider it is also challenged by operating within an island economy that is still recovering from the last two hurricanes and is constrained by relatively sluggish economic growth, a high net pension liability, high unemployment and a narrow local economy which is largely dependent on tourism.

\$75 million FEMA community disaster loan bridges temporary loss of customer revenue

VI WAPA has received a \$75 million community disaster loan from FEMA to bridge a period of lower revenues following the two hurricanes in 2017. This is positive because it stabilizes VI WAPA's financial position until customer revenue collection improves and allows management to focus on long-term recovery efforts.

Legislation in the Virgin Islands has authorized a second community disaster loan of up to \$75 million subject to need and affordability. VI WAPA is currently evaluating the need for approximately \$35-\$40 million in additional community disaster loans.

For the period September to December 2017, VI WAPA collected total customer revenue of only \$11 million, a substantial drop from average monthly revenue of \$16 million before the hurricanes hit. VI WAPA resumed billing to customers on December 18, 2017 and customer revenue collection has substantially improved over the last few months.

VI WAPA has restored power to around 53,629 customers which compares well to around 55,249 customers in fiscal year 2017 (ending June 30, 2017). However, peak load is currently around 72 MW and remains substantially below the level of around 100 MW before the 2017 hurricanes. Lower electricity demand will continue to put pressure on VI WAPA's revenue.

FEMA grants allow VI WAPA to invest in the resiliency of the electric system

By the beginning of March 2018, VI WAPA had restored power to all eligible customers, substantially supported by the assistance of nearly 1,000 off-island linemen, local contractors and VI WAPA personnel and monetary assistance from FEMA. FEMA Public Assistance has reimbursed VI WAPA for around \$354 million for emergency response efforts under the FEMA Public Assistance Grant Program.

FEMA also announced in April 2018 that it will provide a \$238 million grant to VI WAPA under the FEMA Hazard Mitigation Grant Program with a reduced required local share of 10% of eligible costs. VI WAPA expects to meet the local share requirement with funding from grant money under the US Department of Housing and Urban Development grant provided to the Government of the Virgin Islands.

The additional grant allows VI WAPA to focus on capital projects that are aimed at increasing the resiliency of the electric transmission and distribution system against future hurricanes by replacing wooden poles with composite poles and bringing critical transmission lines underground. Approved mitigation projects are around \$613 million.

The various capital projects will be executed over the next few years and a successful execution on time and on budget will require management's attention and resources.

Previous capital projects to renew generating units are not covered by FEMA grants

VI WAPA's plan to renew its generating units has been adjusted to the changing demands of the islands and VI WAPA seeks to focus on acquiring smaller and more efficient generating units. The first three of these units totaling 21 MW are being installed in St. Thomas. The investment in these new generating units will need to be debt-financed as these are not eligible for FEMA grants as the capital project was already under development before the two storms. Future generators will be funded through debt or HUD grants. Once completed, the project would help to reduce future capital maintenance requirements and increase the efficiency of the electric system.

Completion of LPG conversion project and negotiation of payment plan with VITOL

VI WAPA's fuel mix relies currently on diesel (60%) and propane (40%). The propane facilities have not sustained any significant damage on St. Thomas or St. Croix according to VI WAPA. The St. Croix plant is currently burning propane and the St. Thomas plant has one unit on propane.

A payment plan needs to be re-negotiated for the construction cost of the propane gas conversion project. The entire revised final projects costs of \$160 million were initially expected to be repaid over a 10-year time horizon and recovered through the base rate.

Rate structure includes automatic recovery mechanism

The Levelized Energy Adjustment Clause (LEAC) was increased on June 29, 2018, reflecting pressure from higher fuel costs. The per-kilowatt hour (kWh) surcharge fee was raised from 14.35 cents to 18.28 cents, approximately an additional \$11 per month for the average rate payer. The base rate remains unchanged.

Electric rates are regulated by the Virgin Island Public Service Commission (PSC). VI WAPA's rate structure includes numerous automatic cost recovery mechanisms that flow through its LEAC and are adjusted regularly. The largest component of the LEAC is the projected cost for fuel (including purchased power) but it also includes such things as the cost of financing related to fuel expense and the ability to recover the cost of deferred fuel. Since 2015, the LEAC is adjusted semi-annually rather than quarterly. Base rate hearings are conducted as needed but not less than once every 5 years.

Timely cost recovery constrained by high retail rates, weak economy and slow rate approval process

The total residential electric rate on the Virgin Islands is around 39.89 cents/kWh, which is high compared to electricity rates on the US mainland and compared to other island economies such as Hawaii and Guam. The PSC has been supportive of the utility's ability to recover its costs in the past and has also supported its fuel diversification and efficiency efforts.

However, lengthy rate proceedings can constrain the authority's ability to recover incurred costs on a timely basis. VI WAPA's new management is focused on increasing its transparency to the PSC, which should help to reduce the duration of future rate proceedings.

In addition, the PSC will be challenged to balance VI WAPA's requests for rate increases against high retail electric rates and a struggling economy after the most recent hurricanes.

Financial Operations and Position

LIQUIDITY

November 2018 maturity puts further pressure on weak liquidity profile

VI WAPA's liquidity profile is very weak with cash on hand of just around 10 days. A \$75 million community disaster loan from FEMA has helped VI WAPA to bridge a period of low operating revenues in the months following Hurricanes Maria and Irma. VI WAPA recently started billing customers for electricity provided in the period shortly before the Hurricanes and customer collections have picked up over the last few months.

However, VI WAPA's 2016 unrated private placement of around \$34 million is maturing November 15, 2018. VI WAPA currently expects to extend the maturity of the private placement in the next few weeks. VI WAPA does not have the liquidity resources to repay the private placement at maturity from cash on the balance sheet.

Outstanding government receivables from the US Virgin Islands are estimated to be around \$31 million, which remains high but on the positive side has not increased further since June 30, 2017. Principal payments on the rated senior and subordinate electric system revenue bonds are due July 1 of each year and the next interest payment is due January 1, 2019. VI WAPA reports that its debt service reserve fund for the rated senior and subordinated debt continues to be fully cash funded.

Debt and Other Liabilities

DEBT STRUCTURE

We estimate that VI WAPA's electric system currently has around \$327 million of outstanding long-term debt which includes unrated debt of around \$136 million.

As of July 31, 2018, VI WAPA had approximately \$101 million in rated senior electric system revenue bond debt and around \$90 million in rated subordinated electric system revenue bond debt. Principal payments are due July 1 of each year and interest is paid semi-annually on January 1 and July 1 of each year.

In addition to the rated debt, VI WAPA's debt includes a \$34 million bond anticipation note due November 15, 2018 for street lights and solar financing, a \$12.5 million RUS (Rural Utilities Service) senior term loan due December 31, 2034, a \$15 million bond anticipation note and a \$75 million Community Disaster Loan. The RUS loan ranks pari passu with the senior electric system revenue bonds.

VI WAPA's working capital credit lines are subordinated to senior lien and subordinated debt and tend to be fully drawn. These credit lines have been renewed in the past on an annual basis and we are not aware that any of the banks have accelerated any outstanding amounts.

Debt service is estimated to be around \$24 million over the next few years, excluding interest on the Community Disaster Loan or the working capital credit lines.

Exhibit 2

Outstanding debt as of July 31, 2018 (\$ million)
Virgin Islands Water and Power Authority

As of July 31, 2018			
Debt Description - Electric System Senior Revenue Bonds	Outstanding (\$ million)	Financial Maturity	Rating
Series 2003	40	7/1/28	Caa1
Series 2010B	7	7/1/22	Caa1
Series 2010C	37	7/1/35	Caa1
Series 2012A	17	7/1/21	Caa1
Total rated senior bond debt	101		
Debt Description - Electric System Subordinate Revenue Bonds	Outstanding (\$ million)	Financial Maturity	Rating
Series 2007A	58	7/1/31	Caa2
Series 2012C	32	7/1/25	Caa2
Total rated subordinated bond debt	90		
Total rated senior and sub bond debt:	191		
Additional unrated debt			
\$13 million RUS loan	13	12/31/34	
Street light and solar financing private placement (capitalized interest 5.5%) - 2 year loan	34	11/15/18	
2017 A bond anticipation notes	15	7/1/20	
Community Disaster Loan	75	7/1/33	
Total outstanding debt	327		
Total outstanding senior debt	114		

Source: Offering Circulars rated bonds, VI WAPA

Structural Considerations

VI WAPA's senior lien electric system revenue bonds are secured by a pledge of net electric revenues and certain other funds as defined in the bond resolution (water revenues are not pledged). The senior electric system revenue bonds have a debt service fund requirement equal to the lesser of (i) 10% of aggregate bond proceeds, (ii) maximum aggregate annual debt service or (iii) 125% average aggregate annual debt service.

The subordinate lien electric system revenue bonds rank behind the senior lien electric system revenue bonds and have a debt service reserve requirement equal to the lesser of 50% multiplied by (i) 10% of aggregate bond proceeds, (ii) maximum aggregate annual

debt service or (iii) 125% average aggregate annual debt service. The subordinate lien electric system revenue bonds rank senior to any interest and principal on the authority's outstanding credit lines.

The first drawdown of \$31 million under the \$75 million community disaster loan was structured as a general obligation of the authority with a lien on net revenues but ranking junior to the existing indebtedness including the senior and subordinated electric system revenue bonds and the existing credit lines. The second drawdown of \$44 million along with the \$31 million was restructured and is secured by a first lien bond issued under the water system bond resolution and a super subordinate lien on the electric system revenues. Approximately 83% of the debt service associated with these second community disaster loans is allocated to the electric system.

Bond ordinance requirements include a 1.25x senior debt bond ordinance debt service coverage, a 1.15x senior and subordinated bond ordinance debt service coverage and a 1.0x total debt service coverage requirement.

We expect that VI WAPA will meet its covenant requirements for fiscal year 2017. However, we expect that fiscal year 2018 will be difficult to meet due to the temporary loss in revenue following Hurricanes Maria and Irma unless the \$75 million community disaster loan can be counted towards revenues. From a liquidity perspective, the \$75 million community disaster loan from FEMA has provided VI WAPA with the necessary proceeds to mitigate the lost customer revenue.

VI WAPA calculates its bond ordinance coverage ratios in accordance with its documents and excludes certain expenses such as OPEB funding, non-cash portion of pension funding, bad debt expense and PILOTs that are part of the Moody's net revenue based (calculated from the GAAP income statement) debt service coverage ratios.

DEBT-RELATED DERIVATIVES

No debt-related derivatives. However, In 2015, VI WAPA started to use commodity swaps for hedging its propane price exposure. Counterparties to these swaps are Shell Trading Risk Management, LLC and J. Aron & Co. The swaps require monthly payments and had a positive fair value of around \$9.8 million as of June 30, 2016.

PENSIONS AND OPEB

VI WAPA's employees participate in the Employees' Retirement System of the Government of the Virgin Islands (GERS), a cost-sharing, multiple-employer, defined benefit system administered by the board of GERS. In VI WAPA's fiscal year 2016 financial statements, it was disclosed that the electric system's share in the adjusted net pension liability is close to \$259 million, which approximates the authority's outstanding debt.

VI WAPA also provides certain post-employment health care benefits (OPEBs) to retirees under a health insurance plan. The benefits are extended at the discretion of VI WAPA which may modify, terminate or adjust premiums as circumstances change. As of June 30, 2016, the Authority's net OPEB obligation was estimated at about \$47.9 million. The PSC approved the initiation of an OPEB surcharge effective January 2014, intended to cover current OPEB costs and to begin funding current and future liabilities.

Management and Governance

Management's focus on the recovery efforts combined with increased transparency is positive. Going forward management will be challenged to stabilize VI WAPA's weak financial flexibility, improve financial controls and the delivery of financial audits while maintaining the focus on its operations.

Since March 1, 2018, Lawrence Kupfer, a former Hess employee, has been the new CEO and executive director for VI WAPA and the CFO position has been filled with Debra Gottlieb. Following immediate emergency repairs and the restoration of the transmission and distribution system, management is now focused on various grant-supported hazard mitigation projects to strengthen the electric system against future hurricanes and increase revenue collection from customers. These capital projects will require substantial management resources and oversight to guarantee a successful execution on time and on budget.

Historically, VI WAPA's management and governance practices were weak, evidenced by a history of filing financial statements with substantial lag, its lack of financial flexibility and limited practice of long-term financial planning, and turnover at the senior management level.

The authority is governed by a board of nine members which are appointed by the Governor of the Virgin Islands. Six members are appointed by the Governor, with the consent of the Legislature, for three year terms and three members are appointed by the Governor from his Cabinet.

Rating Methodology and Scorecard Factors

The principal methodology used in this rating was US Public Power Electric Utilities With Generation Ownership Exposure published in November 2017. Please see the Rating Methodologies page on www.moody.com for a copy of this methodology.

The grid indicated rating for VI WAPA is a Caa1, with the assigned rating to the senior lien electric system revenue bonds.

Exhibit 3

Rating Factors - US Public Power Electric Utilities with Generation Ownership Exposure Virgin Islands Water and Power Authority (VI WAPA)

Factor	Subfactor	Score	Metric
1. Cost Recovery Framework Within Service Territory		B	
2. Willingness and Ability to Recover Costs with Sound Financial Metrics		B	
3. Generation and Power Procurement Risk Exposure		Ba	
4. Competitiveness	Rate Competitiveness	B	
5. Financial Strength and Liquidity	a) Adjusted days liquidity on hand (3-year avg) (days)	B	5-10
	b) Debt ratio (3-year avg) (%)	Baa	82%
	c) Adjusted Debt Service Coverage or Fixed Obligation Charge Coverage (3-year avg) (x)	B	0.98
Preliminary Grid Indicated rating from Grid factors 1-5		B1	
		Notch	
6. Operational Considerations		-1	
7. Debt Structure and Reserves		-2	
8. Revenue Stability and Diversity		-2	
Grid Indicated Rating:		Caa1	

Debt ratio and fixed charge coverage ratios are based on Moody's average adjusted financial metrics for the fiscal years 2014-2016. Moody's adjusted days liquidity on hand is based on Moody's latest expectation for average unrestricted days cash on hand.

Source: Audited financial statements electric system VI WAPA, Moody's Investors Service

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